History Taking and Physical Examination for the Patient with JAUNDICE

By

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CASE SCENARIO 1

- A 54-year-old Hispanic woman presents to the emergency room complaining of constant, severe right upper quadrant pain radiating to her right scapula that has lasted for approximately 6 hours. She has vomited twice without relief of the pain. She experienced two similar, but less severe, episodes of such pain several weeks ago, for which she did not seek medical care. She does not have any chronic illness.

- Examination reveals a moderately obese woman with a temperature of 38Â°C (100.4Â°F). Her sclerae are slightly icteric. She exhibits abdominal guarding, with moderate right upper quadrant tenderness on palpation, halting of inspiration during palpation, and normal bowel sounds.

- What is the most likely diagnosis in this patient?
- What imaging study should be performed?

- The white blood cell count is 14,000 cells/mm^3, and the alkaline phosphatase level is elevated at 200 IU/L. The total bilirubin level is 4 mg/dL. The serum aminotransferase values are normal.
- What other historical information is needed pertaining to risk factors?
- Should this patient be admitted to the hospital?
- What tests would you order if you suspected acute viral hepatitis?
- If the patient has acute hepatitis A or hepatitis B, what should you tell her about the risk to her family, and what is the appropriate follow-up after she recovers?

CASE SCENARIO 2

- A 37-year-old housewife reports 3 weeks of general fatigue, several days of dark urine, and 1 day of scleral icterus. She denies vomiting, but complains of mild, continuous pain in the right upper quadrant, and intermittent nausea.

- Physical examination reveals the patient to be jaundiced but comfortable. She shows no signs of malnutrition and has no spider angiomas or palmar erythema. The liver is tender and measures 15 cm by percussion in the midclavicular line; it is palpable 4 cm below the costal margin on inspiration. The spleen is not palpable, and the examination findings are otherwise unremarkable.

- What is your first diagnostic impression, and why?

CASE SCENARIO 3

- A 66-year-old man is admitted with complaints of progressively severe, constant upper abdominal pain, nausea, and vomiting of 48 hoursâ€™ duration. Recently, he has consumed large quantities of vodka, but has no history of biliary tract disease and is taking no medications.

- He is a thin man, wincing and clutching his abdomen. His temperature is 38Â°C (100.4Â°F); blood pressure, 100/60 mm Hg; pulse, 90 beats per minute; and respirations, 18 per minute. His abdomen is flat and the bowel sounds are hypoactive. There is marked direct tenderness with guarding in the midepigastrium, but no peritoneal signs.

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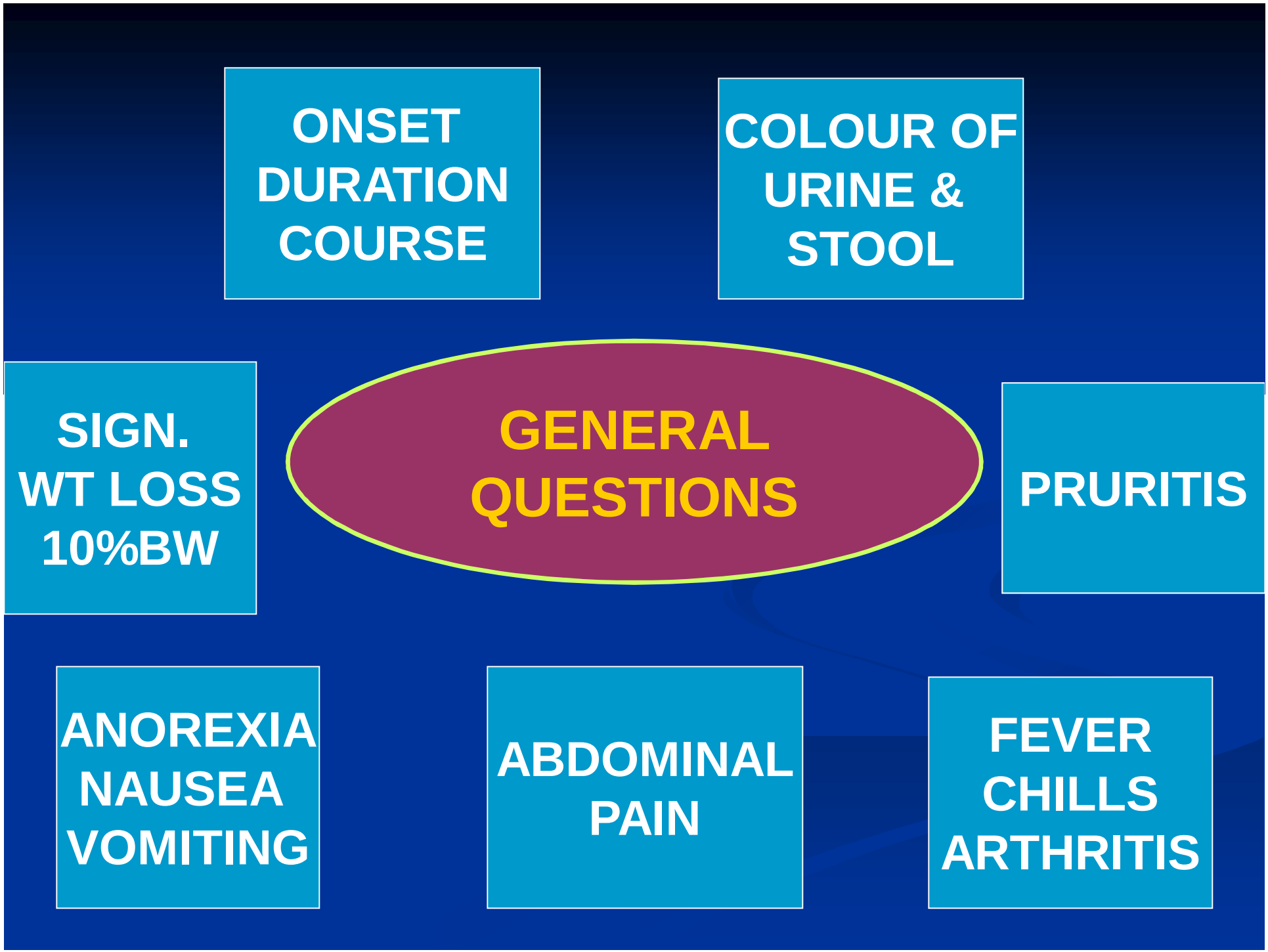
- The following laboratory data are gathered: white blood cell count, 10,000 cells / mm3; hematocrit, 50%; serum creatinine, 1.3 mg / dL; total serum bilirubin, 3.4 mg / dL; alkaline phosphatase, 246 IU / L; AST, 209 IU / L; and serum amylase, 741 U / L.
- Plain abdominal radiographs reveal the presence of scattered air-fluid levels, predominantly in the small bowel, but no calcification or subdiaphragmatic free air.
- An abdominal ultrasound examination reveals a dilated, fluid-filled gallbladder, a dilated common bile duct without definite calculi, and a poorly visualized pancreas because of overlying bowel gas.

- A nasogastric tube is inserted and placed at low suction, and the patient remains NPO, receiving only IV fluids. Over the ensuing 48 hours, he requires regular doses of meperidine for the control of persistent, severe pain and is noted to have a rise in his bilirubin (8.0 mg/dL), alkaline phosphatase (450 IU/L), and AST (375 IU/L) levels. ERCP, performed on the third hospital day, demonstrates a dilated common bile duct that tapers smoothly in its intrapancreatic portion and contains no stones. The gallbladder is dilated and also contains no stones. No pancreatogram is obtained.
- The aforementioned management is continued, and total parenteral nutrition is started. The patient's pain, abdominal tenderness, and liver test abnormalities gradually abate over the subsequent 10 days.
- Why was an ERCP obtained?
- What was the cause of the patient's biliary obstruction?

History Taking


ONSET
DURATION
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WT LOSS
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GENERAL
QUESTIONS
PRURITIS
ANOREXIA
NAUSEA
VOMITING
ABDOMINAL
PAIN
FEVER
CHILLS
ARTHRITIS

Specific Questions to Ask Patients with Jaundice or Liver Disease

RELATED TO VIRAL HEPATITIS:

- Blood transfusions (especially if before 1990)
- Intravenous drug use
- Sexual practices
- History of sexually transmitted disease
- Multiple sexual partners (>5/y)
- Intercourse with individuals with hepatitis B or C
- Contact with individuals with jaundice
- Changes in taste and smell

RELATED TO VIRAL HEPATITIS:

- Needle stick exposure
- Work in renal dialysis units
- Surgeons in trauma units or operating rooms exposed to
- users of intravenous drugs
- Shared razors or toothbrushes
- Body piercing (ears, nose)
- Tattoos
- Intranasal cocaine use

SPECIAL RISK FACTORS FOR HEPATITIS A

- Travel to endemic areas
- Ingestion of raw shellfish (harvested from contaminated waters)
- Exposure to patients in places where clusters of hepatitis may occur (e.g., institutions, restaurants, preschool nurseries)

MEDICATION RELATED

- Review all prescription medications
- Ask specifically about all over-the-counter drugs
- Ask specifically about vitamins (especially vitamin A)
- Ask specifically about any foods, herbal preparations, home remedies purchased in a health food store

MISCELLANEOUS QUESTIONS

- **ALCOHOL USE**
- **Obtain detailed *quantitative* history of both recent and previous alcohol use from the patient *and* family membersCheck for evidence of alcohol-associated illnesses (pancreatitis, peripheral neuropathy)**

MISCELLANEOUS QUESTIONS

- History of anemia, sickle cell disease, known
- hemoglobinopathy, artificial heart valves
- Symptoms suggestive of biliary colic, chronic cholecystitis
- Family history of liver or gallbladder disease
- History of inflammatory bowel disease (should raise the question of primary sclerosing cholangitis and receipt, if any,
- of blood transfusions)
- Occupational history and, specifically, exposure to hepatotoxins

In adult patients with a new onset of jaundice, eight disorders account for 98% of the ultimately established diagnoses. They include:

- **Viral hepatitis.**
- **Alcohol-induced liver disease**
- **chronic hepatitis (all causes).**
- **Drug-induced liver disease.**
- **Gallstones and their complications.**
- **Carcinoma of the pancreas.**
- **Primary biliary cirrhosis and primary sclerosing cholangitis.**

Differential Diagnosis of Jaundice

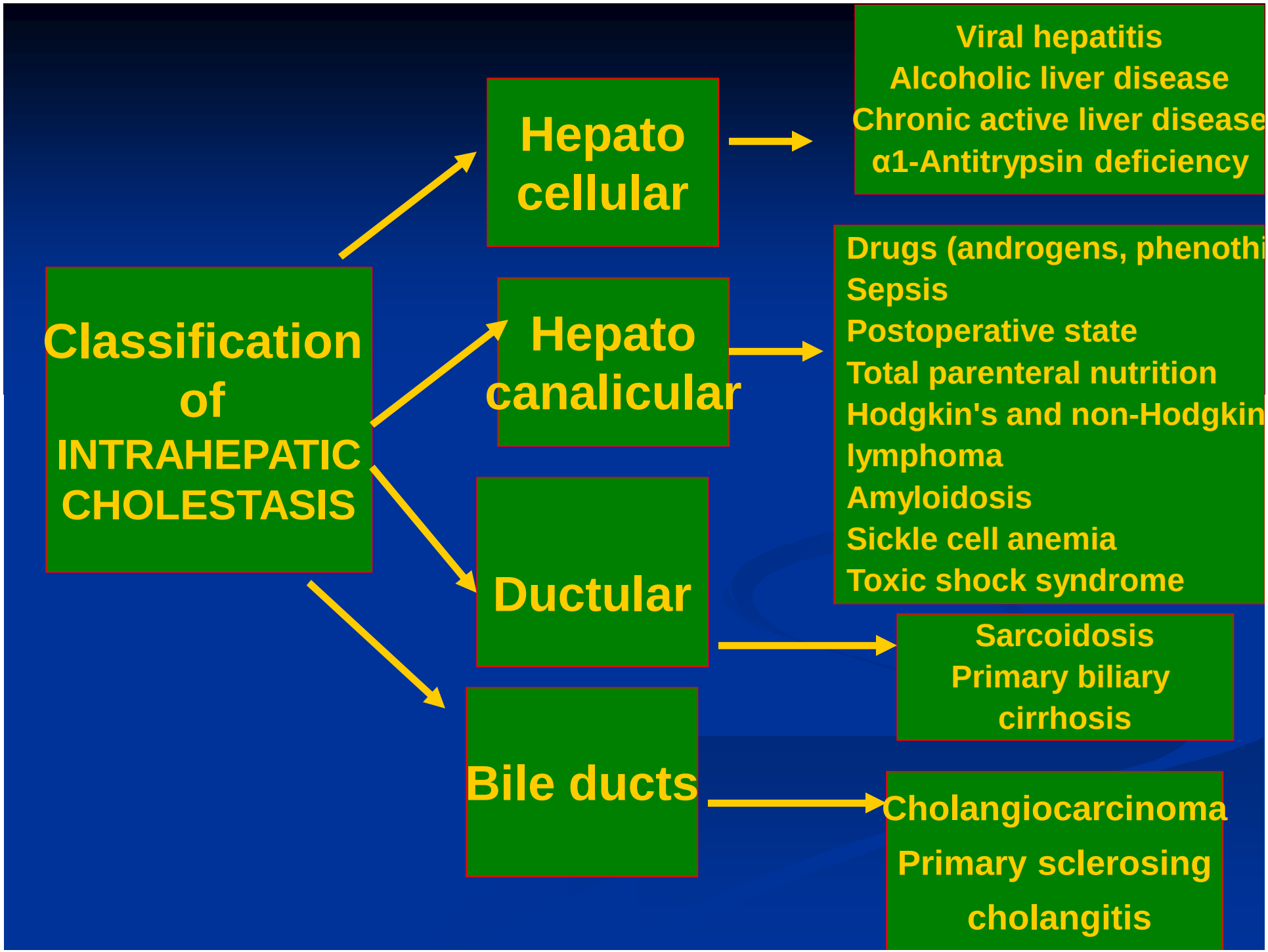
- **MOST COMMON CAUSES**
- Viral hepatitis
- Alcoholic liver disease
- Cholecystitis, choledocholithiasis
- Carcinoma of the pancreas

COMMON CAUSES

- Drug- or toxin-induced liver disease
- Chronic hepatitis
- Sickle cell anemia
- Sepsis
- Postoperative state
- Primary biliary cirrhosis
- Primary sclerosing cholangitis

LESS COMMON CAUSES

- Hodgkin's disease, non-Hodgkin's lymphoma
- Total parenteral nutrition
- Gilbert's syndrome (unconjugated hyperbilirubinemia rarely exceeds 3.0 mg/dL and detectable jaundice is infrequent)
- Metastatic liver disease (jaundice does not develop until >85%–90% of the liver is replaced by tumor)


Classification of INTRAHEPATIC CHOLESTASIS
Hepato cellular
Viral hepatitis
Alcoholic liver disease
Chronic active liver disease
α1-Antitrypsin deficiency
Hepato canalicular
Drugs (androgens, phenothi
Sepsis
Postoperative state
Total parenteral nutrition
Hodgkin's and non-Hodgkin
lymphoma
Amyloidosis
Sickle cell anemia
Toxic shock syndrome
Ductular
Sarcoidosis
Primary biliary cirrhosis
Bile ducts
Cholangiocarcinoma
Primary sclerosing cholangitis

Physical Examination of the Patient with Jaundice

GENERAL INSPECTION

Scleral icterus

Pallor

Wasting

Needle tracks

Evidence of skin excoriations

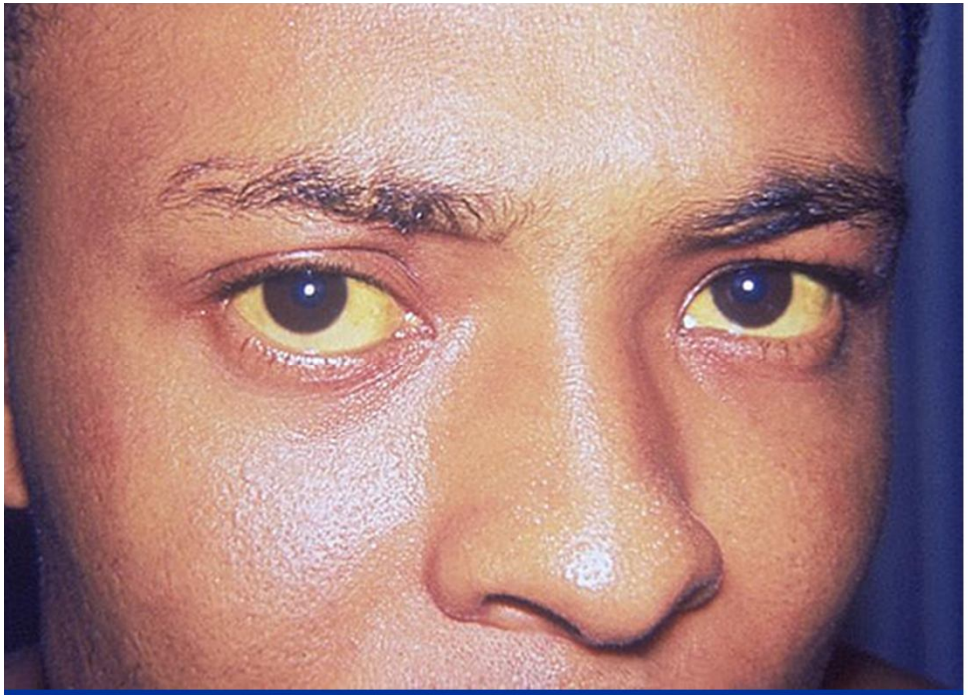
Ecchymosis or petechiae

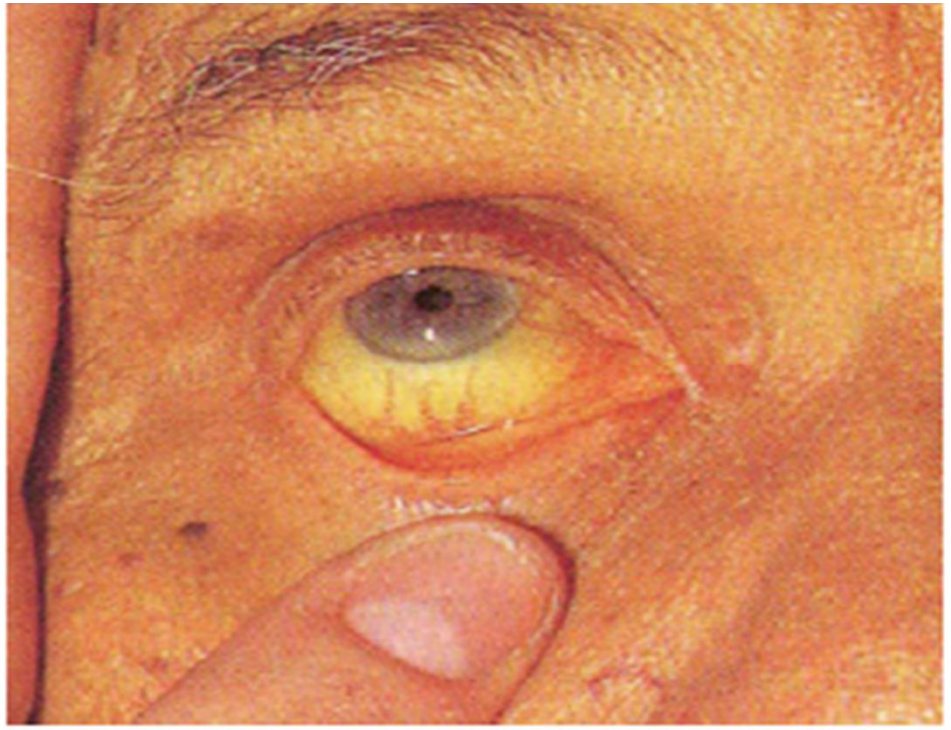
Muscle tenderness and weakness

Lymphadenopathy

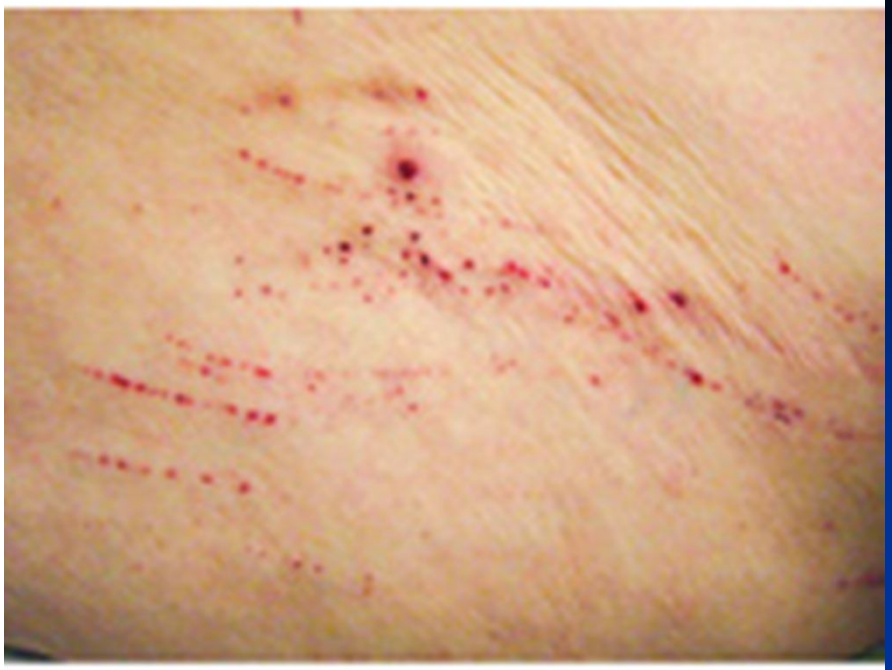
Evidence of pneumonia

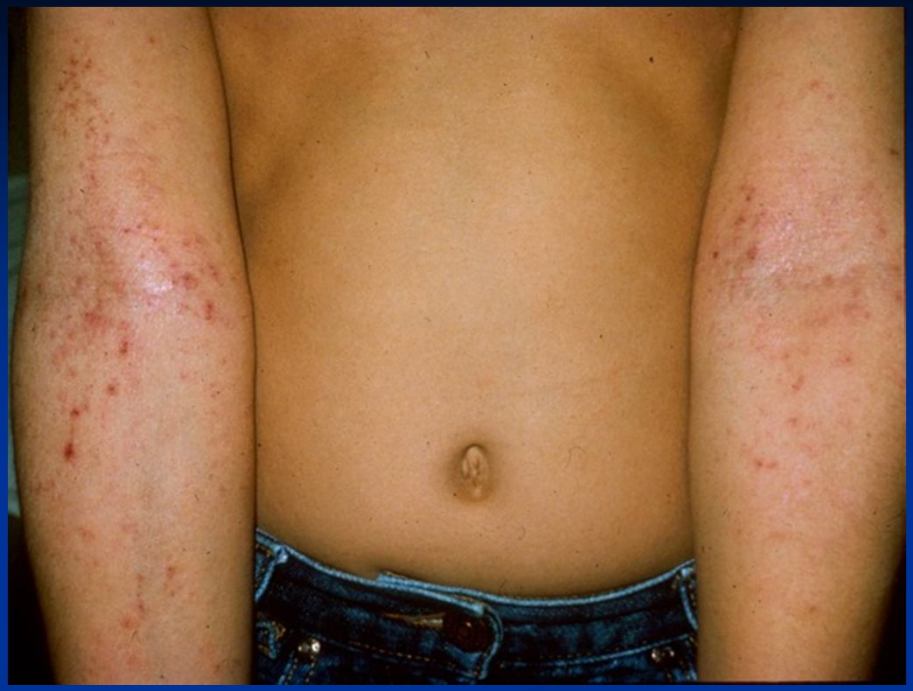
Evidence of congestive heart failure

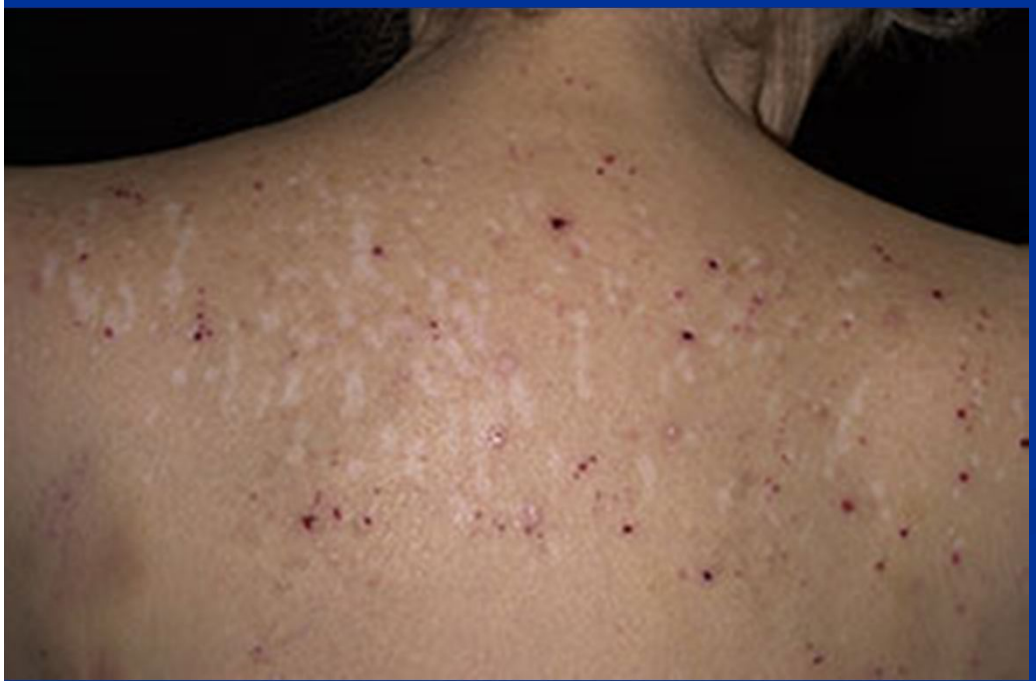




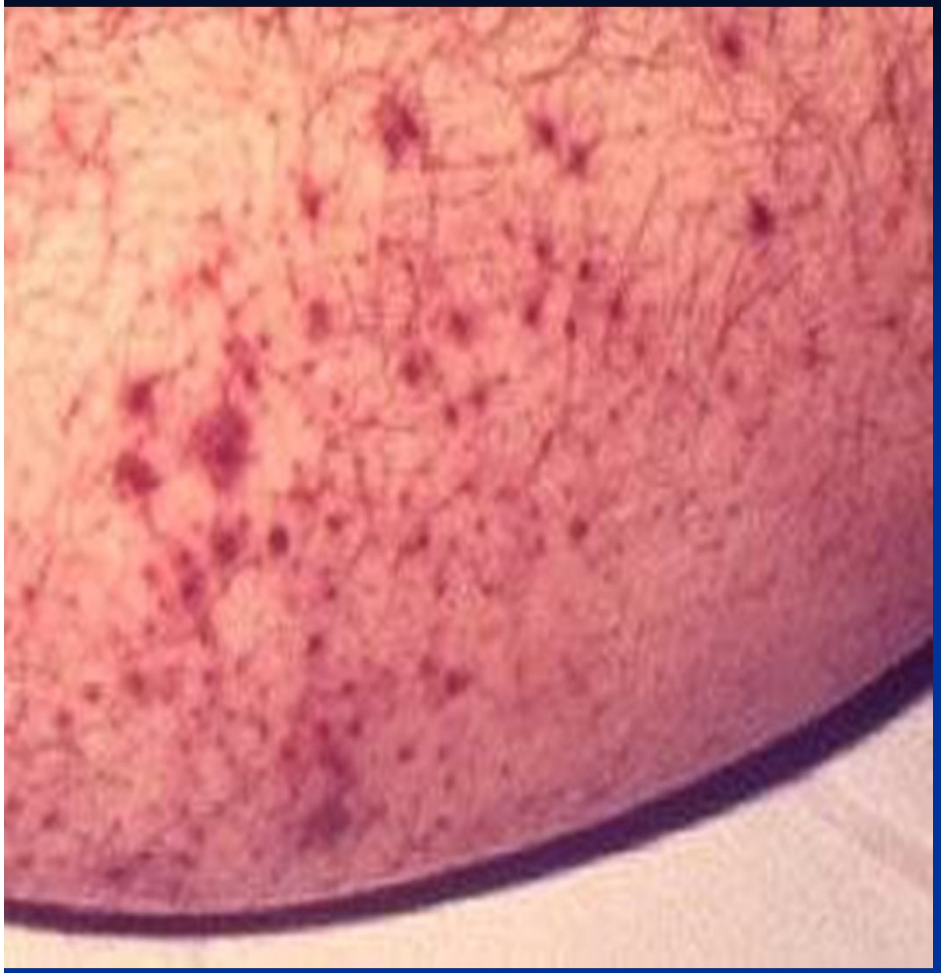
Scleral icterus



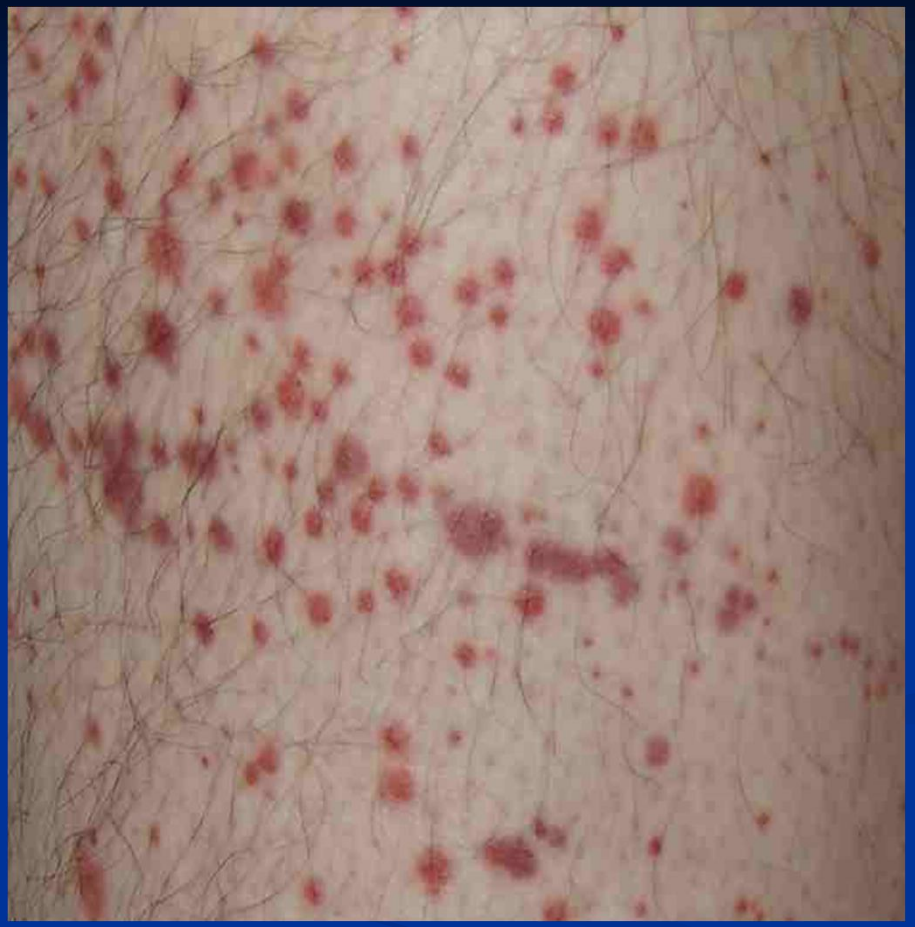




skin excoriations (pruritis)

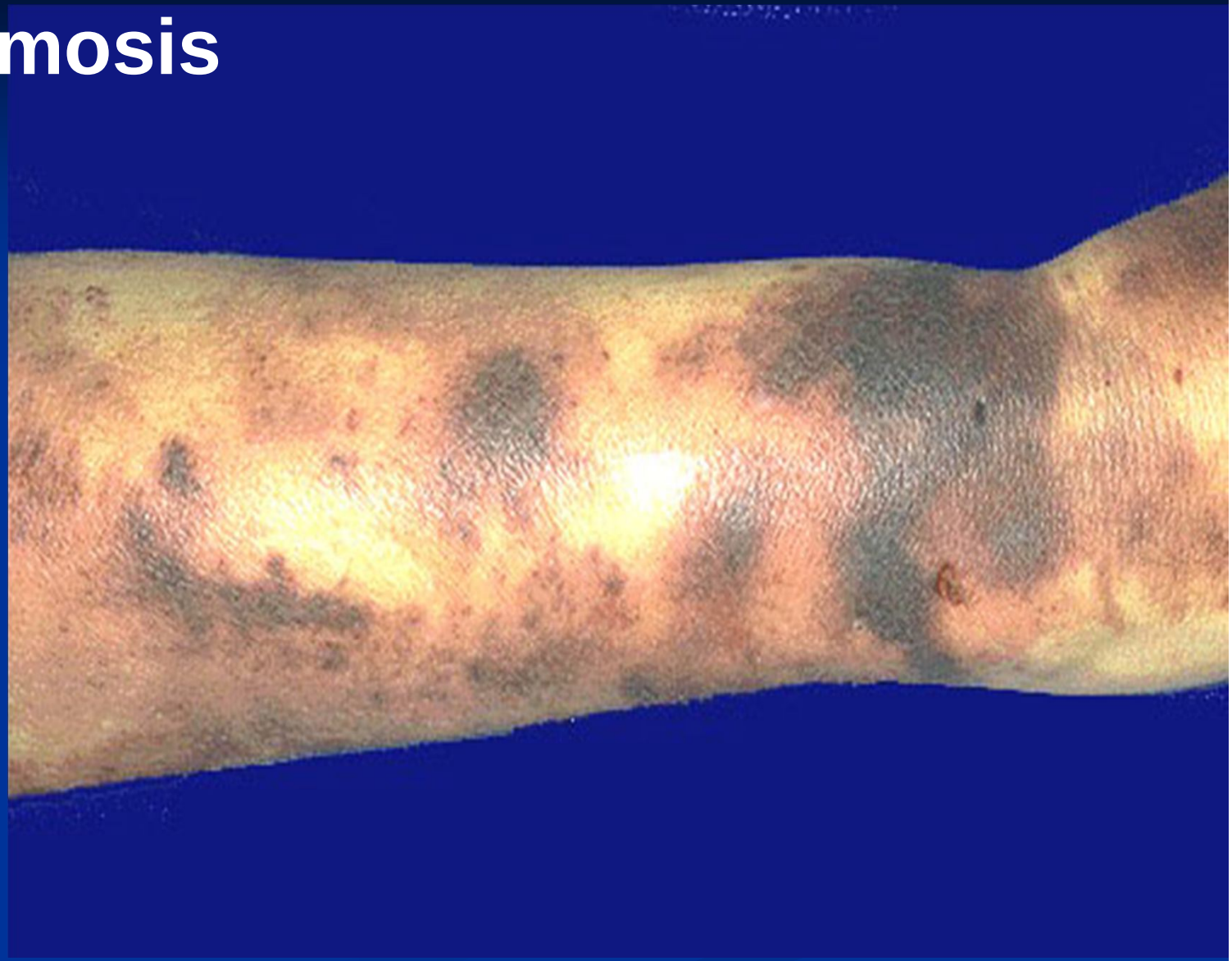


Ecchymosis and petechiae



purpura

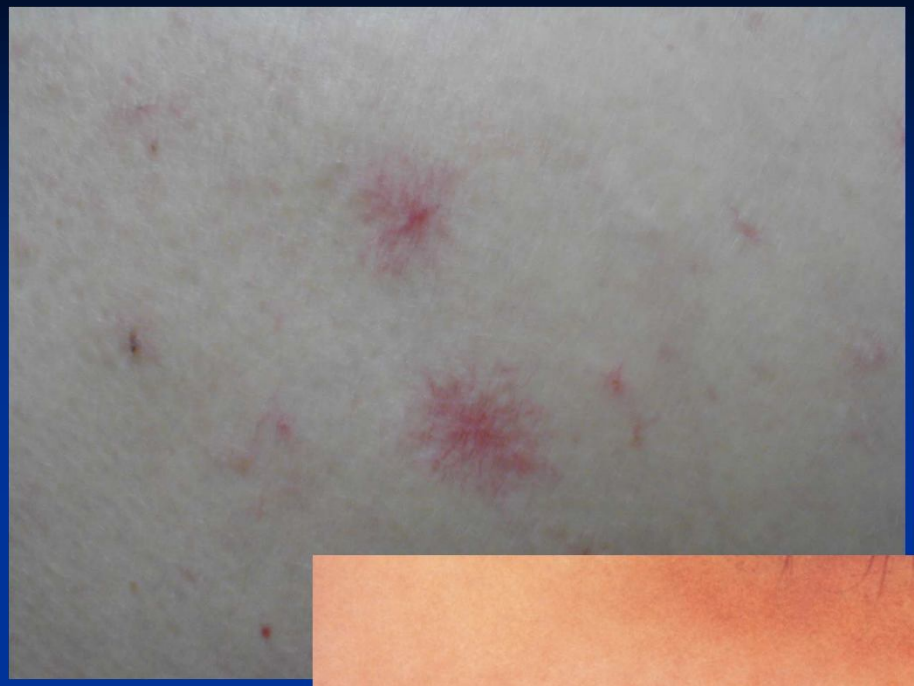
Ecchymosis

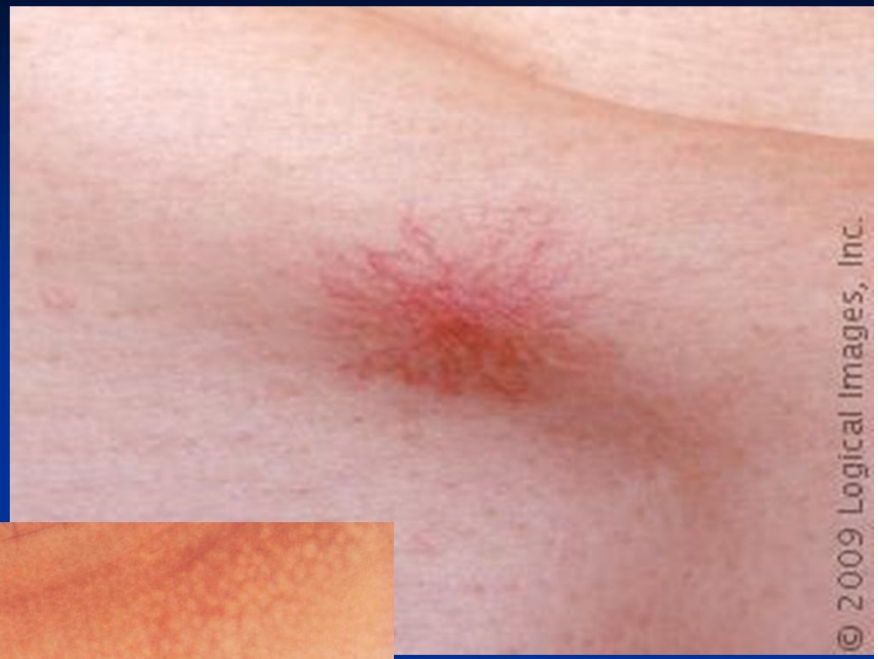


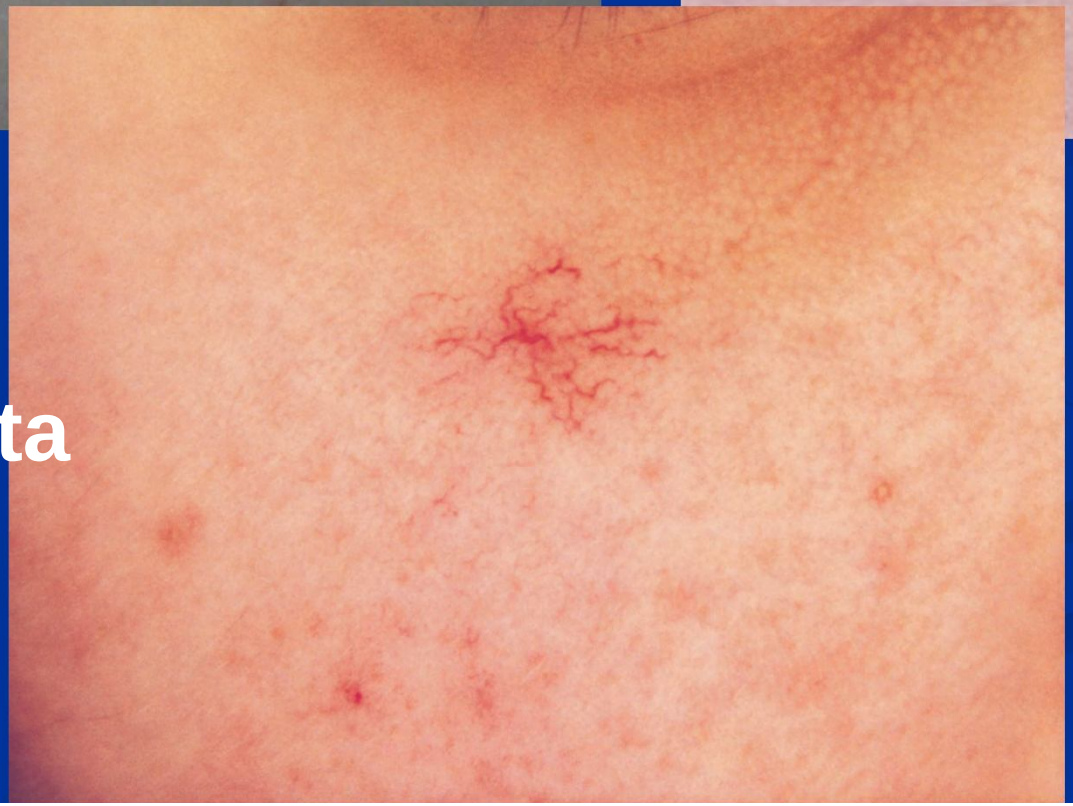
PERIPHERAL STIGMATA OF LIVER DISEASE

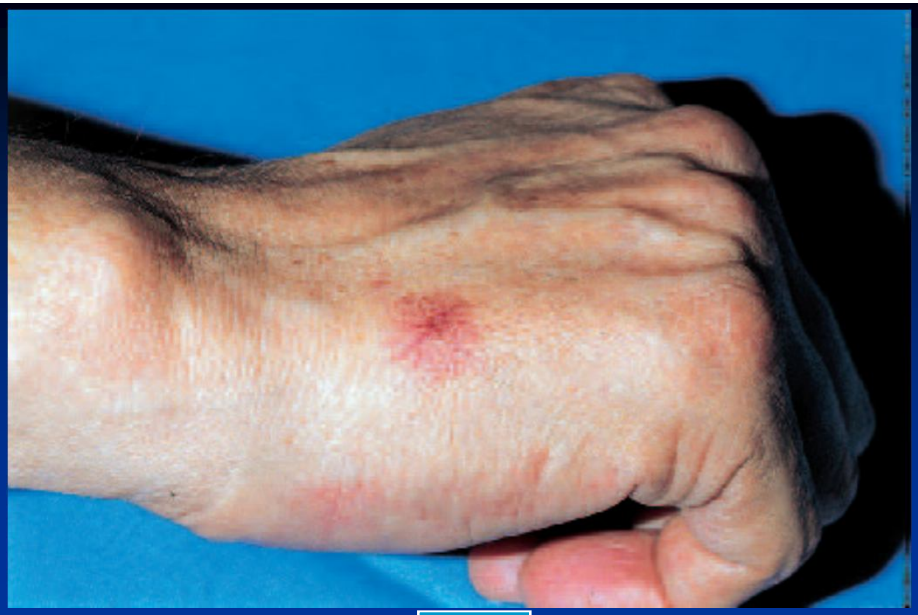
- Spider angiomata
- Palmar erythema
- Gynecomastiaa
- Dupuytren's contracture
- Parotid enlargement
- Testicular atrophy
- Paucity of axillary and pubic hair
- Eye signs

Spider angiomata

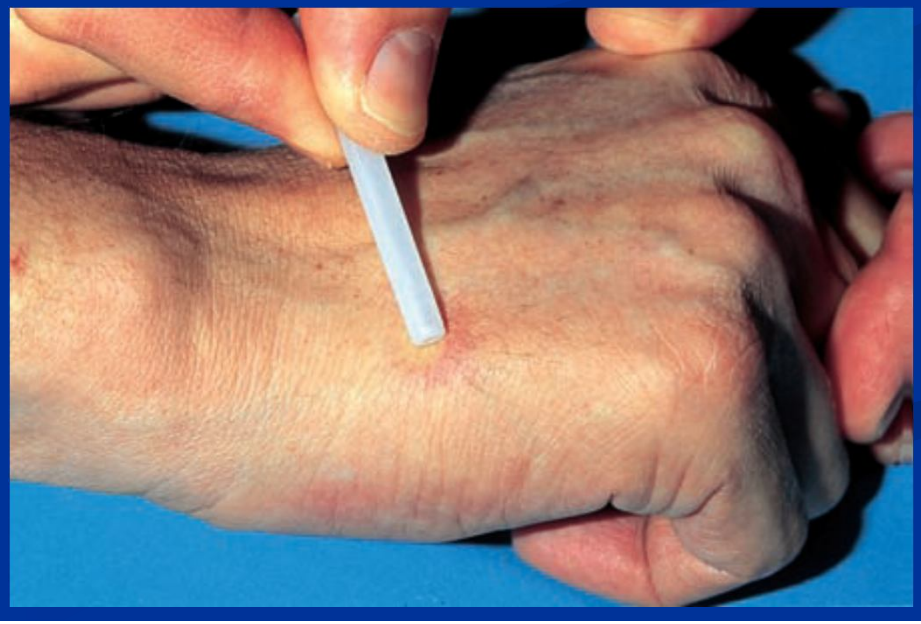




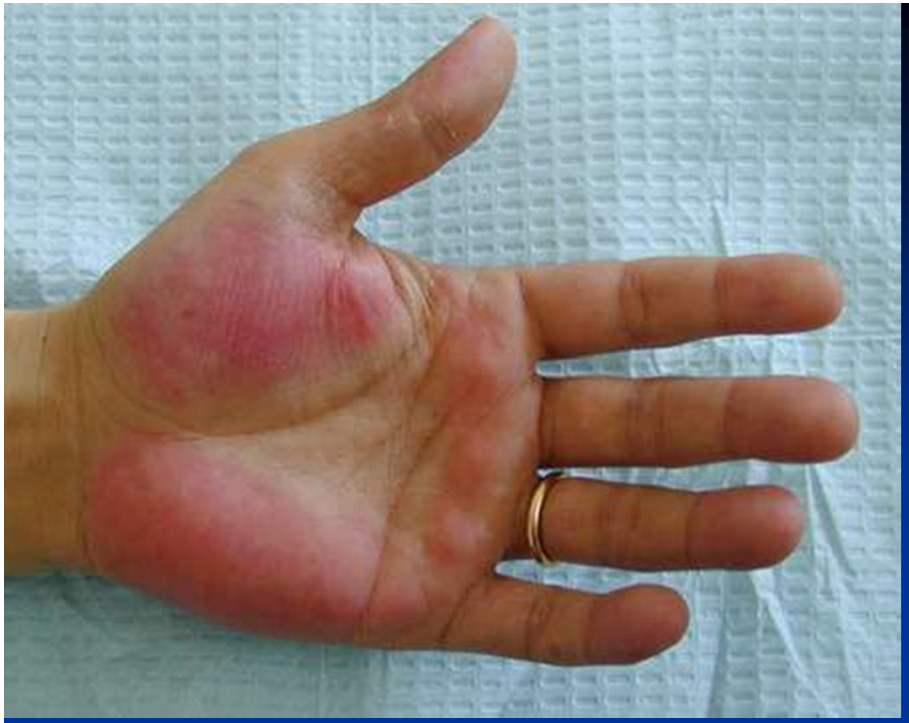




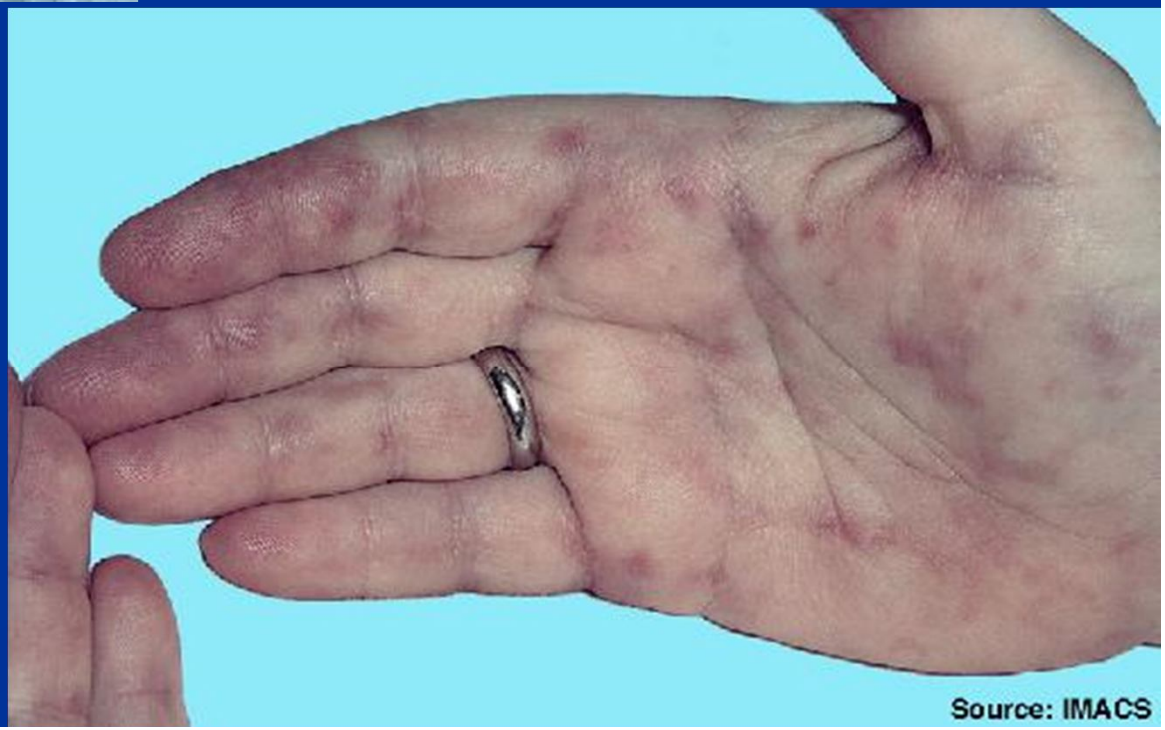
Disappearance of spider nevus following central arteriole compression

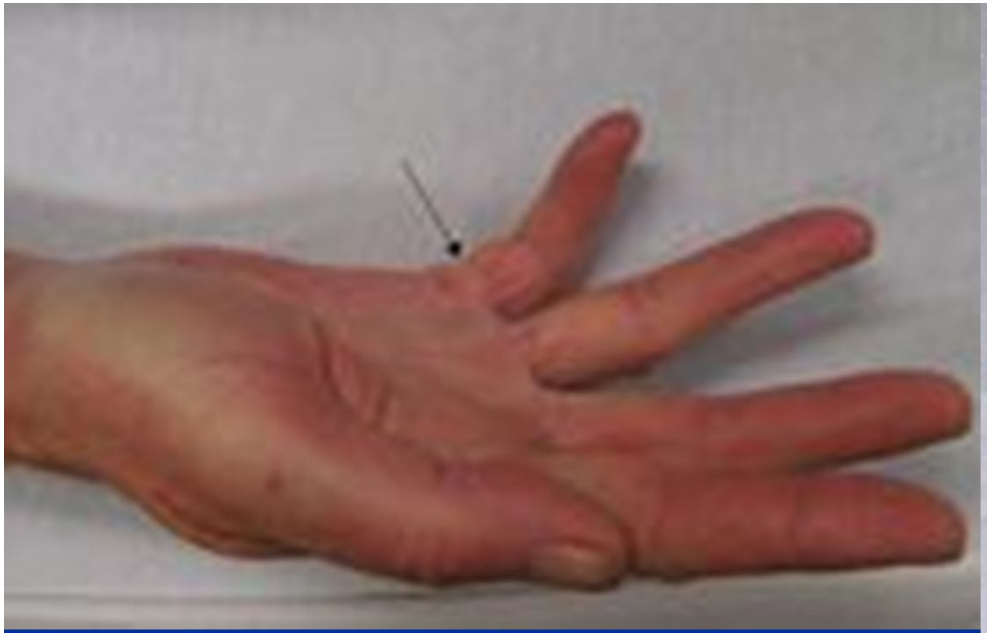


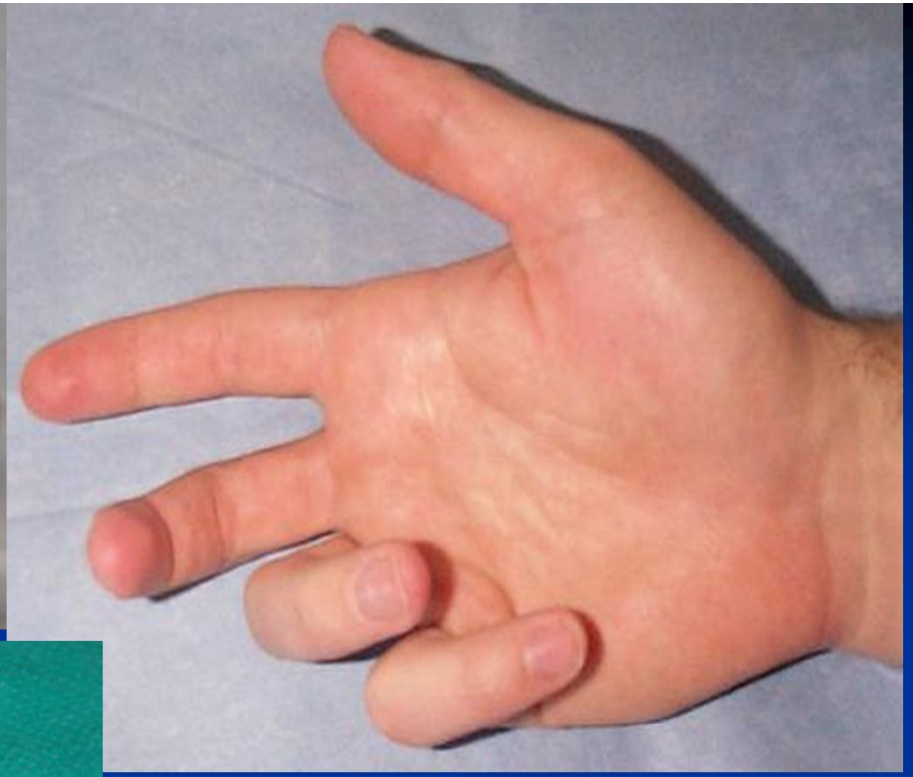
Spider angiomata

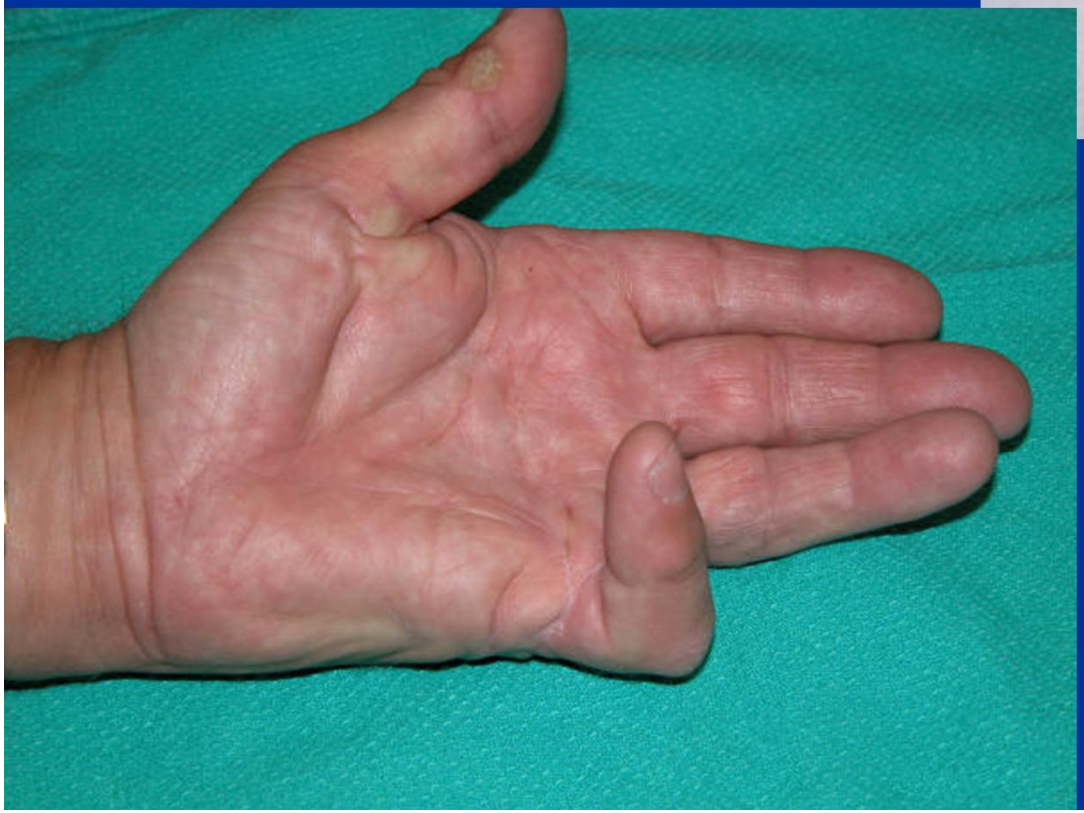


Palmar erythema



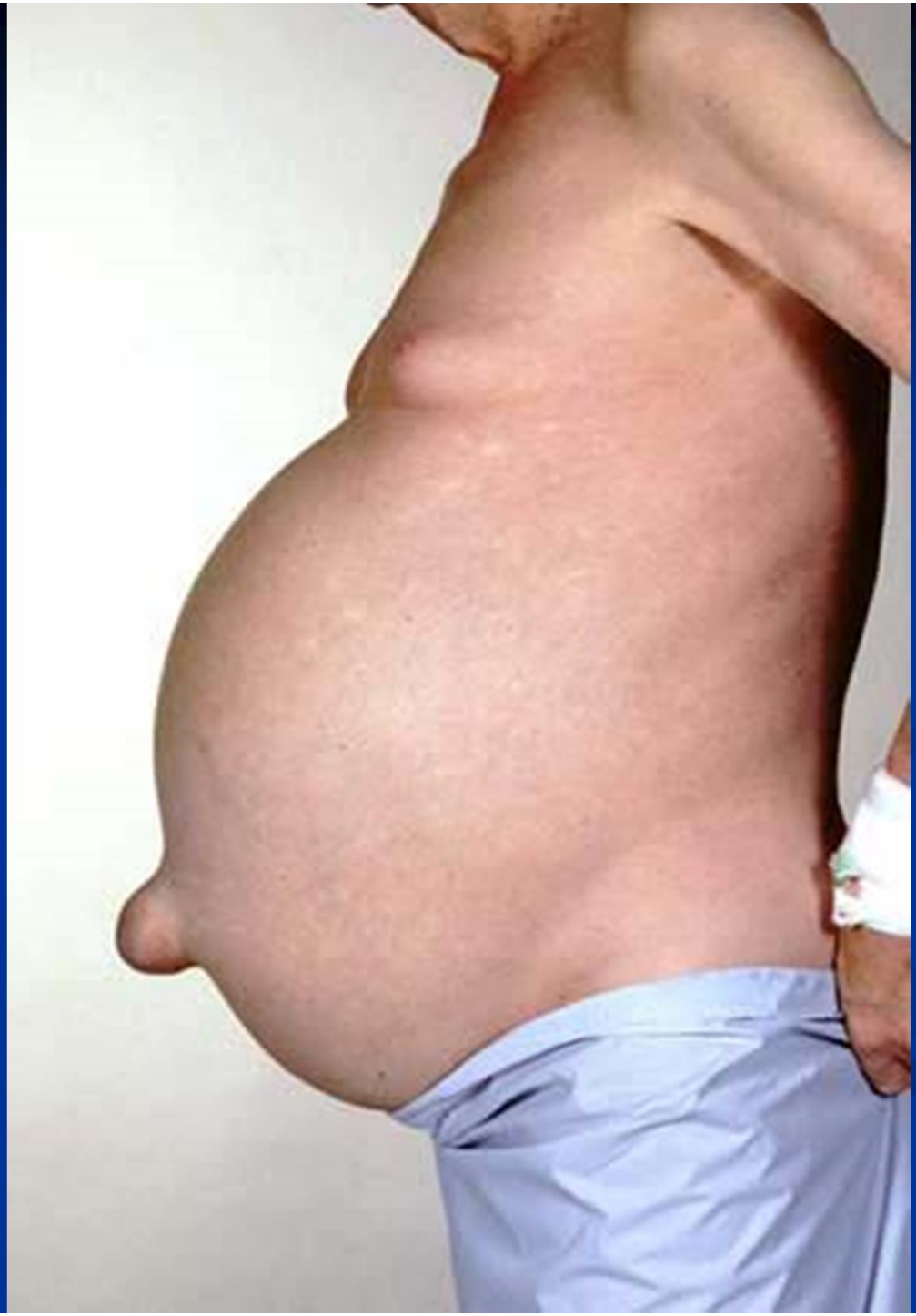




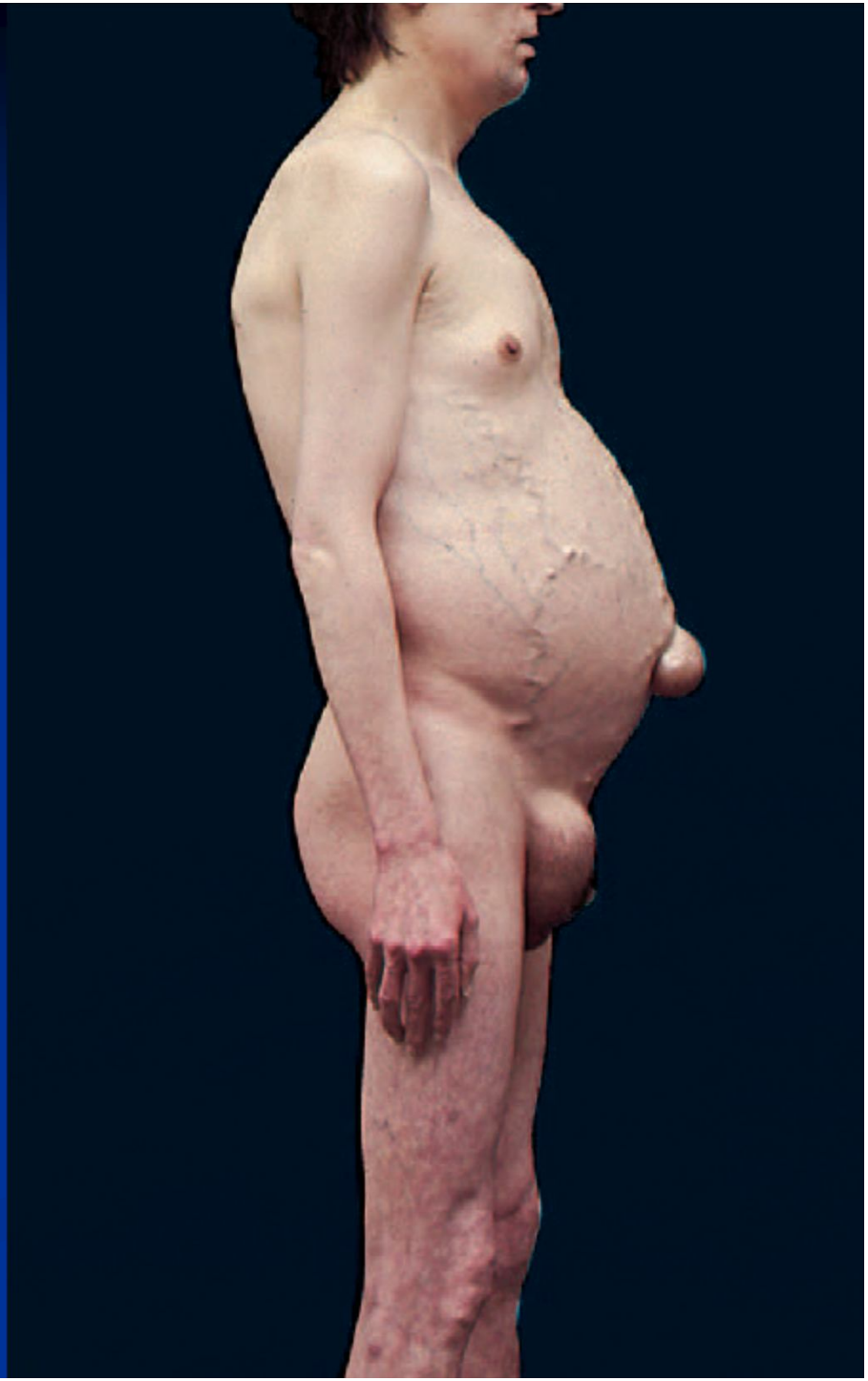


Dupuytren's contracture

- Jaundice
- Muscle wasting
- Gynaecomastia
- loss of axillary and pubic hair
- ascites



- Ascites &hydrocele
- Abdom. collateralls
- Gynaecomastia
- loss of axillary and pubic hair



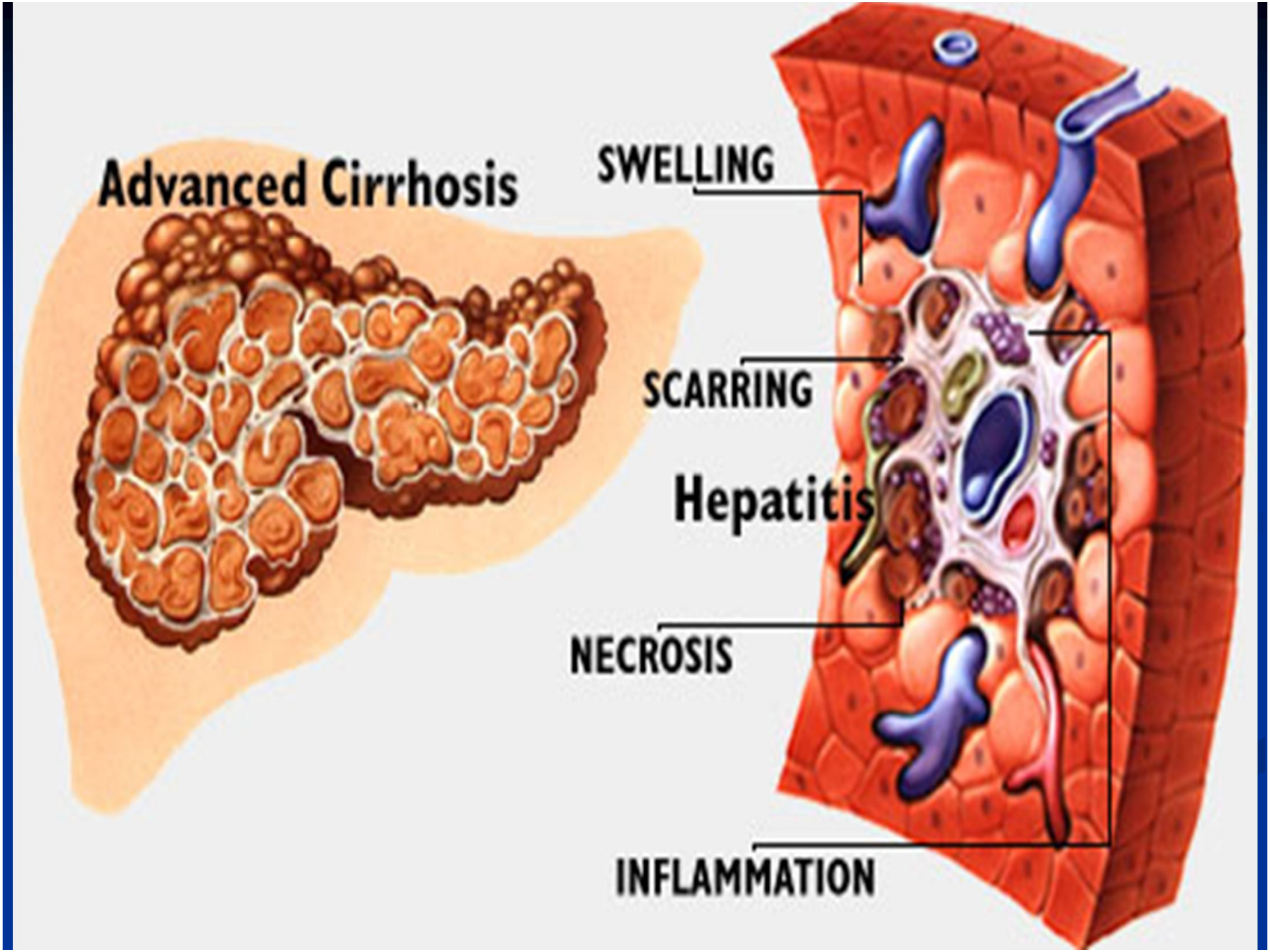
ABDOMINAL EXAMINATION

- Hepatomegaly
- Splenomegaly
- Ascites
- Prominent abdominal collateral veins
- Bruits and rubs
- Abdominal masses
- Palpable gallbladder

SIGNS OF DECOMPENSATED HEPATOCELLULAR DISEASE

- Jaundice
- Ascites
- Oliguric hepatic failure
- Hepatic encephalopathy
- Fetor hepaticus
- Asterixis
- Behavioral alterations (confusion, disorientation, failure to complete simple mental tasks)

The triad of findings of splenomegaly, ascites, and an increased number of venous collateral vessels on the anterior abdominal wall indicates a diagnosis of portal hypertension.


Advanced Cirrhosis
SWELLING
SCARRING
Hepatitis
NECROSIS
INFLAMMATION

The presence of two physical findings (ascites and evidence of portal-systemic encephalopathy [asterixis]) and two laboratory findings (hypoalbuminemia [<2.8 g/dL] and a prolonged prothrombin time [>3 seconds]) indicates a diagnosis of cirrhosis of the liver.

Three physical findings (parotid enlargement, gynecomastia, and Dupuytren's contracture) indicate that a patient is almost certainly consuming excessive amounts of alcohol.

Laboratory Parameters

1. uncojugated versus conjugated hyperbilirubinemia or combined.

2. if uncojugated ⟶ think in hemolytic jaundice.

Jaundice is due to *unconjugated bilirubin*. Bilirubinuria is absent, while urinary urobilinogen levels are often increased. Laboratory parameters indicate hemolysis (e. g., reticulocytes ↑ , LDH ↑ , haptoglobin ↑ , and possibly Hb ↓). Liver function tests are normal.

3.if conjugated or comdined look for: hepatocellular vs cholestatic

Table 25.2 Clinical–chemical diagnosis in hepatobiliary diseases

Clinical Features	Laboratory parameters
Hepatocellular integrity	AST, ALT
Biliary integrity	Alkaline phosphatase, γ-GT
Hepatocellular synthesis	Coagulation factors, PTT, serum albumin, cholinesteras

AST – aspartate aminotransferase; ALT – alanine aminotransferase; γ-GT – γ-glutamyl transpeptidase

3.if conjugated or comdined look for: hepatocellular vs cholestatic

The most important markers of hepatocellular damage are:

- aspartate aminotransferase (AST)
- alanine aminotransferase (ALT)

γ-GT thus facilitates differentiation between hepato-biliary and bone-related causes of elevated AP levels.

3.if conjugated or comdined look for: hepatocellular vs cholestatic

Table 25.3 Laboratory findings in different liver diseases

Liver disease	Serum bilirubin	Transaminases	Alkaline phosphatase	PTT	γ-Globulins
Gilbert syndrome	unconjugated	normal	normal	normal	normal
Dubin–Johnson syndrome	conjugated	normal	normal	normal	normal
Acute hepatitis	mainly conjugated	↑ ↑ ↑	↑	normal – ↑ ↑ ↑	normal
Chronic hepatitis	mainly conjugated	↑ – ↑ ↑	normal – ↑	normal – ↑	normal – ↑ ↑ ↑
Liver cirrhosis	mainly conjugated	normal – ↑	normal – ↑	normal – ↑ ↑ ↑	↑ ↑
Cholestasis	mainly conjugated	↑ – ↑ ↑	↑ ↑ ↑	normal – ↑ ↑ (normal after intravenous vitamin K)	normal
Space-occupying lesions	mainly conjugated	normal – ↑	↑ ↑	normal – ↑ (late)	normal

HOME EXERCISE

Match the laboratory findings with the various diagnostic possibilities

AST (IU/L)	ALT (IU/L)	Total Bilirubin (mg/dL)	Alkaline Phosphatase (IU/L)	Diagnosis
a. 235	90	5.5	190	1. Acute viral hepatitis
b. 1,100	1,320	5.5	190	2. Chronic viral hepatitis
c. 235	325	5.5	190	3. Alcoholic hepatitis
d. 235	325	10.5	990	4. Bile duct obstruction

Investigate according to suspected causes:

hepatitis serology, autoantibodies tumor markers, imaging modalities or liver biopsy


BEST WISHES